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19 March 1980

Worldwide Report

EPIDEMIOLOGY

No. 179

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INFLUENZA EPIDEMIC DECLINE--The Ministry of Health reports that in most GDR bezirks, the peak of the incidence of influenza has passed. A marked decline in the influenza epidemic is reported in the majority of the kreises in Erfurt, Gera, Karl-Marx-Stadt, Potsdam and Schwerin bezirks. The overall number of citizens suffering from viral influenza and other types of colds is lower than last week. A negligent attitude towards influenza infections, however, is still not desirable, especially in the case of small children, patients with chronic diseases and elderly citizens. The instructions for timely consultations with medical doctors, the prevention of the contagion of other citizens and a healthy way of life must be strictly adhered to in the coming weeks as well. [Text] [AU261112 East Berlin NEUES DEUTSCHLAND in German 23-24 Feb 80 p 2 AU]

CSO: 5400

MEDICAL TEAMS TO ASSIST JAUNDICE-HIT AREAS

New Delhi PATRIOT in English 10 Feb 80 p 4

[Text] Srinagar, Feb 9--Special medical teams have been rushed to the jaundice-hit areas of Baramulla district, Radio Kashmir announced today quoting an official spokesman of the State Government.

The spokesman, while admitting unusual increase the incidence of water-borne diseases in recent months, claimed that jaundice had not broken out in an epidemic form.

Jaundice has broken out in Sopore and Baramulla areas of Kashmir valley claiming about dozen human lives during the past few days. Thousands of people have been stated to be affected by the disease resulting from use of contaropinated water. [as printed]

At least seven deaths were reported from fruit rich Sopore 252 km from here. Several localities around Sopore and Baramulla town are also in the grip of the epidemic, according to the unofficial reports.

The biggest source of jaundice in the affected areas was stated to be a river known as Ningli Nalah feeding drinking water supply system there.

Specialists doctors here have confirmed that Ningli water is usually contaminated.

Because of this reason jaundice is almost constant health hazard in and around Sopore and Baramulla.

Doctors say that river water was not being adequately treated before being supplied for drinking purposes. They said that Public Health Engineering Department had not paid any heed to the medical advice for ensuring that Ningli water is constantly rested for safety.

The number of reported incidents of jaundice in the affected areas has been rising and people in dozens were being treated at the local hospitals and other health centres.

CSO: 5400

BRIEFS

EL-TOR-OGAWA CHOLERA CONFIRMED--Urawa 21 Feb KYODO--El-Tor-Ogawa type cholera germs have been detected from a 31-year-old office woman of Kawaguchi, Saitama Prefecture, who returned last Thursday from a trip to Southeast Asia, health officials here reported Thursday. The germ carrier was isolated Thursday at a municipal isolation hospital in Kawaguchi, they said. She had diarrhea in Bangkok last Monday after sightseeing in Singapore, Thailand, and other nations in a tour group of 28 Japanese, the officials said. She reported the fact to a medical inspection office at the New Tokyo International airport at Narita last Thursday when she returned to this country. A medical examination Tuesday showed she was carrying cholera germs but in good health, according to officials. The Saitama Prefectural health officials said they checked two other company workers from Ageo who took part in the tour and alerted health officials to examine Tokyo and Yamanashi tour participants. [Text] [Tokyo KYODO in English time not given 21 Feb 80 OW]

CSO: 5400

BRIEFS

SCHISTOSOMIASIS ON INCREASE--Bilharzia disease is on the increase in Holugo and Ijara locations, Garissa District, and wananchi have been advised to boil drinking water. Medical authorities estimated the number of people suffering from the disease at 15,000 and about 40 percent are primary school children. Residents of the two locations have complained that bilhazia patients are being turned away from dispensaries in the area because of a lack of drugs. The medical officer of health in Garissa, Dr. Cheque, said the disease was prevalent in the area because of stagnant dam water and he added that the Ministry was discouraging continuous use of drugs and was seeking a permanent solution to the disease. He said the Ministry of Health was going to embark on a programme to treat water in dams and boreholes. [Text] [Nairobi DAILY NATION in English 18 Feb 80 p 5]

CSO: 5400

THREAT OF RAT-CARRIED DISEASE IN CAPITAL REPORTED

Tananarive MADAGASCAR-MATIN in French 23 Jan 80 p 3

[Text] With the rainy season, the problem of cleanliness, wild grasses, undergrowth, blocked sewers arises once more in Antananarivo. And becoming more crucial with it is the problem of the rats that seem to have sworn to invade the capital and its environs.

From a reliable source we learn that rabies and the plague have become endemic in the capital and its environs because of that harmful animal, the rat.

In fact it is well known that Antananarivo is more or less contaminated with rabies. And cases of the plague are also at an endemic level in the faritany [translation unknown]. All this because of the rats, whose "breeding" seems to be unconsciously favored by Tananarivians.

The plague, like rabies, is transmitted by the rat's bite. Or in the latest case, through the intermediary of the fleas that suck the blood of both humans and animals.

Thus, as long as we encourage rats to live in "comfort," these two very dangerous diseases will persist and will produce new victims, being contagious and fatal diseases.

It even seems that Antananarivo is throwing itself into a kind of genocide because of the behavior of the inhabitants, who must be made aware, individually and collectively.

This is true because with the advent of the rainy season any environment propitious for the development of rats is favored.

First, there are the undergrowth and wild grasses that indiscriminately invade everything they encounter (ground, the edges of streets, even the roadways themselves). Then the salt water evacuation canals that are allowed to become blocked, in which rats find matter to make them flourish.

Not to mention the sewers into which many women, through laziness, like to throw waste water and garbage, thus giving nourishment to the rats, which more and more tend to be as large as cats, their hereditary enemy, to whom they generally transmit their fleas.

An extremely meticulous permanent campaign to eliminate rats is therefore necessary and very urgent, to check and push back these two very dangerous diseases.

In the decentralized, government-run communities first; they must increase the spraying of DDT which for the last several years has only been done once a year. But we have learned that for lack of means--collection of taxes and assessments being poor--the authorities cannot do otherwise.

The government-run communities are also conducting a campaign to eliminate rats, but for the same reason it is done only periodically. Hence the need for the fokotany and each individual to also conduct a rat elimination campaign at their own level by cleaning up any overgrown communal ground and forcing landlords to do the same with their property, by cleaning the sewers, by watching household drains and imposing a penalty on those who consider them a garbage dump.

There is also the use of dumps for control, for people still like to throw garbage in front, and never inside, of them. They like to believe the administration installed them for the pleasure of looking at them!

Civically, too, the parties concerned should think about paying their financial debts to the state and the decentralized communities (assessments, taxes).

At the same time, every home can use the products sold in pharmacies, such as rat poison, though taking the prescribed precautions.

And naturally, as a common denominator, there is the cleanliness that is truly lacking in Antananarivo, the "City of the Thousand." That cleanliness that actually depends above all on each individual whose garbage is accumulating until it becomes a collective, indeed a national problem.

PHOTO CAPTION

1. The last center of bubonic plague was the village of Tsarahonenana-Masindray in February 1975. In 20 days it caused 9 deaths and 20 persons were treated and watched.

8946
CSO: 5400

PORTUGAL

BRIEFS

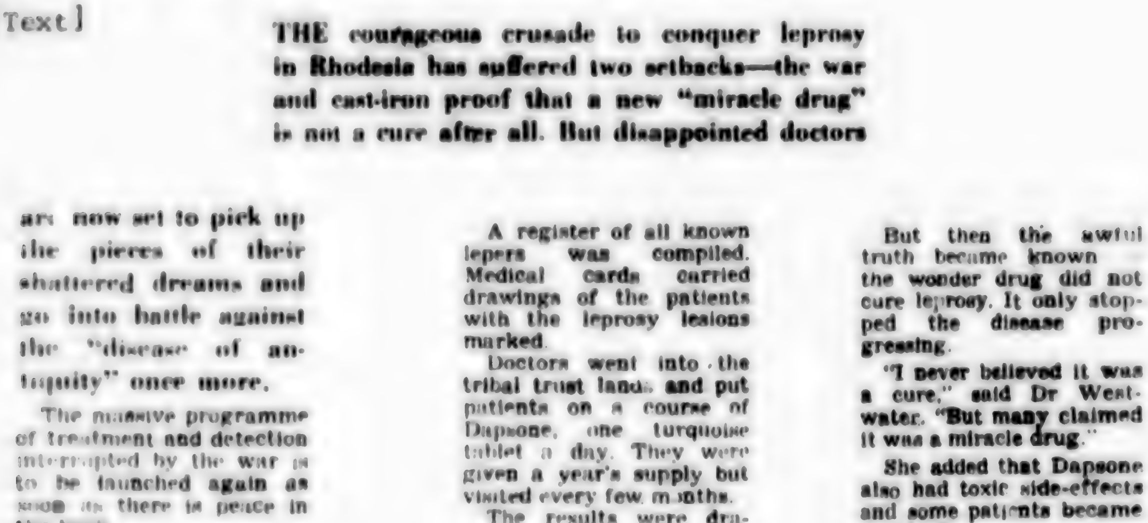
MENINGITIS CASES--Some meningitis cases detected in the Povoa de Varzim schools have been causing controversy among the population of that county. The people believe they are in the midst of an epidemic. The problem worsened when the death of Joaquina da Silva Ferrerira (8 years old) of the Sininhos Primary School was made public. After health officials were notified they proceeded to do a study and presented the results to the Porto health director. The report concluded that the above mentioned school should not be closed. This did not calm the parents of the pupils. In fact when Luis Veloso (15 years old), a student at the Rocha Peixoto Commerce and Industry School, came down with meningitis and was taken to the Joaquim Urbano Hospital (where he is reported out of danger), the people related his case with that of Joaquina Ferreira. At that time they spoke of an epidemic outbreak. This contentious situation led many teachers and students not to show up for classes and to an unprecedented search for preventive medication. Meanwhile, the Porto health director, Dr Emilio Sendas, denied that we were in the midst of an epidemic and insisted that "there is no reason for alarm." He added that "this year's cases [of meningitis] are no more numerous than last year's." [Text] [Lisbon DIARIO DE NOTICIAS in Portuguese 2 Feb 80 p 8]

CSO: 5400

LEPROSY CAMPAIGN SUFFERS SETBACKS

Salisbury THE SUNDAY MAIL in English 2 Mar 80 p 4

[Text]



THE courageous crusade to conquer leprosy in Rhodesia has suffered two setbacks—the war and cast-iron proof that a new "miracle drug" is not a cure after all. But disappointed doctors are now set to pick up the pieces of their shattered dreams and go into battle against the "disease of antiquity" once more.

The massive programme of treatment and detection interrupted by the war is to be launched again as soon as there is peace in the bush.

Doctors say the disease is not spreading any faster than in previous years.

There are believed to be more than 8 000 lepers in the country — and another 250 new cases are discovered each year.

Most of the victims are in the hot, steamy Zambezi Valley. Leprosy thrives on heat, dampness, dirt, overcrowding and poverty.

The fight against the disease looked hopeful 18 years ago when a new drug, Dapsone, came on to the market.

It was hailed as a "miracle" — and many doctors claimed it would cure leprosy. They predicted the disease would be wiped out in Rhodesia by the mid-1980s at the latest.

A register of all known lepers was compiled. Medical cards carried drawings of the patients with the leprosy lesions marked.

Doctors went into the tribal trust lands and put patients on a course of Dapsone, one turquoise tablet a day. They were given a year's supply but visited every few months.

The results were dramatic — the lesions virtually disappeared, the disease stopped eating away the body and patients could live normal lives.

"Some had already been very badly crippled and deformed by leprosy," said Dr Louise Westwater, Provincial Medical Officer of Health for Mashonaland.

"But many others could go about their usual business — you couldn't even tell they were lepers.

"They were treated as out-patients. We would regularly go into the bush and set up a 'clinic' in someone's house or store.

"The lepers would come to us, be checked and given supplies of Dapsone. The badly-crippled lepers would be visited at home."

But then the awful truth became known — the wonder drug did not cure leprosy. It only stopped the disease progressing.

"I never believed it was a cure," said Dr Westwater. "But many claimed it was a miracle drug."

She added that Dapsone also had toxic side-effects and some patients became resistant.

"But it can't be dismissed as a failure," she said. "It's a marvellous drug. It arrests the disease and gives lepers the chance to live normal lives.

"None of my patients have got any worse since being put on Dapsone. The drug has transformed the whole face of leprosy treatment ... but we're still waiting for a cure."

The claim that leprosy would be eradicated within a few years has now become a pipe-dream. Dr Westwater believes it will still be with us in the next century if a real, wonder cure is not found.

Doctors will continue to use Dapsone, which costs next to nothing. A leper can be treated for a year for less than a dollar.

]

Dr Westwater has obtained 1 000 capsules of a new drug, Rifampicin.

"It's exhorbitantly expensive," she said. "I'll try it out on patients as soon as possible.

"It may be a cure. I'll wait and see."

The war was a serious blow to the anti-leprosy campaign.

"We couldn't get out to the tribal trust lands so often because of the security situation," said Dr Westwater. "The biggest problem was that the African buses had stopped running so patients couldn't get to us.

"It wasn't safe for us to go from house to house.

"We had to set up a base and hope they would come to us. Obviously many didn't. They couldn't get there or they were ordered not to by the terrorists. I don't know why.

"Some places we could only visit once every six months. Others, like parts of the Sipolilo area, we haven't been to for six years because of the war."

She estimated that half of the country's lepers had had the Dapsone treatment courses interrupted — and had relapsed.

But she added: "They wouldn't immediately get worse if they stopped taking their tablets. It could take three or four years.

"Leprosy is an incredibly slow-working disease. It has an incubation period of up to 20 years — usually about seven."

Other patients stopped taking their tablets when they fled their TTLs as war refugees.

But Dr Westwater is optimistic about the future.

She knows that when the bush treatment campaign hits top gear again "scouts" will find many more new cases, doctors will see relapsed patients. Deformities will have got worse.

"But it won't be a disaster," said Dr Westwater.

"There'll be a great flurry of activity. This country is advanced in the treatment of lepers and we'll carry on.

"More than 90 percent of people are naturally immune. There can only ever be about 5 percent of the population suffering from leprosy. It's the maximum.

"The aim is to find why this 5 percent are not immune. That's where the cure lies."

CSO: 5400

EPIDEMICS ALARM LATIN AMERICAN COLUMNIST

Mexico City EXCELSIOR in Spanish 18 Feb 80 pp 7A, 8A

[Column by Eduardo Borrell Navarro: "Sanitation Alert: African Swine Fever"]

[Text] News arriving from Cuba with respect to its sanitation, specifically referring to animal health, could not be more alarming. In recent days the Havana Government has shown a deep concern over very generalized insect [as published] infestations in sugarcane and tobacco fields, which according to the government itself, have wrecked the entire Havana cigar output for this year and caused a loss of a million tons of sugar.

Now the international news agencies report the Cuban Government has declared a state of sanitation alert for hogs after the discovery of 24 outbreaks of African Swine Fever in the eastern province of Guantanamo. In this respect, the Cuban Ministry of Agriculture recalled that the same disease led to the wholesale slaughter of 120,000 hogs in Havana Province in 1971.

Such reports invest the subject with extraordinary seriousness. The Cuban people, under the rigid system of Marxist-Leninist control imposed by government authorities--one of whose most demanding impositions has been the so-called ration book for the regimented feeding of all the people--were able to compensate a little for the scarcity of beef by resorting to pigs, either raising them at their own homes or resorting to third parties for obtaining them.

It should be remembered that Cuba in 1958 (before Castro-Communism) already had a real wealth in hogs, at that time having more than 1.5 million head of hogs. Because of the recent epidemic of African Swine Fever, the population of the island will be deprived of pork.

That disease, which afflicts hogs, is highly contagious, very virulent, transmissable and specific of these animals. The virulence and scope of this epidemic has forced the Cuban Government to order the slaughter of all hogs in Guantanamo Province as well as those in a 5-kilometer belt in the bordering provinces of Santiago de Cuba and Holguin.

This is a catastrophe for the Cuban Government in the food and economic areas. Cuba will have no tobacco this year, sugar will decrease by a million tons in the present harvest and, as if it did not have enough troubles, now comes the African Swine Fever epidemic, which affects the already faltering livestock wealth of the country so much.

The sanitation and hygienic situation is very serious. Although the Cuban Government attributed the possible cause of the epidemic to the increasing arrival at Cuban eastern provinces of Haitian emigrants on the way to other countries, as they flee from the miserable living conditions of their country, international authorities and health experts also point out the possibility that this sickness (like so many other foreign sicknesses), is being introduced into the country by the continuous traffic with the African Continent and other countries of the Middle East. Angola, Ethiopia, Yemen, and so forth, without any difficulty can be the sources of all these epidemics and agricultural infestations that are dangerously harming Cuba.

Therefore, it would be very commendable if the health authorities of Caribbean or Central American nations, who maintain so many economic relations with Cuba, would as of now intensify the necessary sanitary measures to prevent the spread of the serious epidemics which are affecting Cuban territory. Vigilance and control should be strictly intensified.

8908
CSO: 5400

AFRICAN SWINE FEVER INFECTION POSSIBILITY FEARED

Havana ANAP in Spanish Nov-Dec 79 p 49

[Article by M. A. Justo Estevanell Abreu of Technical Section of ANAP [National Association of Small Farmers] in organ of the association: "Emergency Diseases"]

[Text] Why Should We Take Precautions Against Emergency Diseases?

Preventing emergency diseases is very important for the countries which base their economic development on livestock production.

Emergency diseases are those which, because of their dangerous invasive ability, can be classified as economic disasters, and among them mainly the exotics, that is, those of which no cases have been reported in our country.

The most important diseases to prevent are: foot-and-mouth disease, bovine plague, bovine contagious pleuropneumonia, contagious nodular dermatitis, African swine fever, swine vesicular disease, classic swine fever, equine fever, equine encephalomyelitis, fowl plague and New Castle disease.

To prevent these diseases, it is necessary to consider two systems:

The first consists of using rules and devices to prevent the entry of an emergency disease in a given area and estimating and predicting the possible means of entry to eliminate them.

The second consists of using rules and devices for preventing the spread of the disease or controlling it, to eliminate it.

These two systems can be applied on a national, provincial and municipal scale. Also, to undertake them correctly, it is necessary to have a clear, definite general concept of prevention.

Prevention capability is an indicator of development in animal health. A country's prevention plans are strategic. Thus, the policy to be followed should be in accordance with health goals as a whole. Short-, medium- and long-term prevention programs join and interconnect with plans drawn up to achieve a greater availability of food, in quantity and quality, for the human population.

In addition, the prevention programs advocated by the institutions in charge of developing them will be successful only if they have the support and cooperation of other institutions and organizations. For example: we have complete control over poliomyelitis and the eradication of African swine fever and other diseases nationally, where the efforts of administrative institutions, political and people's organizations and the general public joined to eliminate those harmful epidemics.

Moreover, sometimes a prevention program benefits not only one nation but groups of countries and then becomes a contribution to international health.

Our country set a good example by eradicating African swine fever. If it had been allowed to get a foothold in Cuba, the Caribbean nations, Central America, South America and North America would all have been threatened. The economic sacrifice demanded for the eradication of this devastating disease not only benefited Cuba but was also a substantial contribution by the Cuban people to the health of this part of the world.

Economic Importance of Prevention

African swine fever, equine fever, fowl plague and New Castle disease are devastating diseases which can kill up to 100 percent of the susceptible animals infected. Other diseases, such as foot-and-mouth, although not fatal, cause the animals' death in terms of productivity by harming the milk and meat from 50 to 100 percent, causing abortions, infertility, etc.

It is not by coincidence that to rid themselves of these terrible diseases, countries have devoted copious resources to their elimination.

In Cuba half a million pigs were sacrificed to African swine fever. Canada spent hundreds of millions of dollars to eliminate foot-and-mouth disease. In 1967 and 1968, England sacrificed 420,000 animals and spent almost 100 million pounds sterling to eradicate that disease. The eradication of foot-and-mouth disease in Mexico cost hundreds of millions of pesos.

African Swine Fever

For about 2 years, outbreaks of this terrible disease have been reported in some Latin American countries whose governments are continuing to take drastic measures to control isolated outbreaks. In Guatemala, it was reported that in Peten, in the northern part of that Central American country, they have detected outbreaks in two towns. The measures taken by the government include a campaign warning people not to eat pork that might be contaminated, the Guatemalan Ministry of Health stated.

Argentina decided to establish an isolation zone on the border with Brazil and announced that in cases where diseased animals are reported, a decision will be made on whether or not to sacrifice the infected establishment's entire hog herd as well as those of the surrounding area.

Another announcement from PRENSA LATINA dated 1 September 1978 said that some 3,000 hogs were sacrificed in Yucatan to prevent the spread of this disease within the country. Mexican health authorities said that control has been reinforced on all borders to prevent the entry of African swine fever present in Brazil, Haiti and the Dominican Republic.

Part of the preventive measures adopted by Mexican health authorities is the rigorous inspection of baggage carried by travelers from those countries. Several tons of pork-based food products have been confiscated and burned as a result of the vigilance campaign.

Although the cable reports the appearance of outbreaks of African swine fever in the state of Yucatan, there has been no official announcement by the Mexican Government about infection in the country.

The proximity to Cuba of these countries affected by African swine fever points out the necessity of strengthening preventive measures against a possible attack. One of the most important is to keep the hog herd vaccinated against hog cholera, which will make it possible to detect quickly any deaths by other causes, among them African swine fever.

Stepping up watchfulness over the hog herd and rigorously applying the health directives which come to the farmers' groups, cooperatives, etc., from the Animal Health Commissions: This is the basic support in the fight to prevent this terrible plague from appearing and causing incalculable damage to our country's porcine livestock.

11937
CSO: 5400

BRIEFS

SWINE FEVER RESOLUTION ISSUED--The Matanzas Province Veterinary Medicine Institute has issued Resolution No 06 concerning the prevention of swine fever following the outbreak of the fever in some parts of the eastern territory. The resolution calls for private hog breeding concerns, whether on individual or state-owned land, to be banned from population centers and surroundings since the disease may spread from their poor hygiene and sanitary conditions. There is also the possibility that their owners may eat the meat from those hogs. [Text] [FL192015 Matanzas Domestic Service in Spanish 1700 GMT 19 Feb 80 FL]

CSO: 5400

TSETSE CONTROLS GRADUALLY GAINS GROUND

Salisbury THE HERALD in English 29 Feb 80 p 9

[Article by Cheryl Robertson]

[Text] Tsetse fly control is slowly being re-introduced into infected areas in the north of the country, but it will be many years before Rhodesia is completely rid of the pest.

"The war severely curtailed tsetse control operations at the beginning of 1977, the previous year being the last time the infested area to the north of the country was sprayed on a large scale," said Mr Gerry Davison, Chief Glossinologist with the Tsetse and Trypanosomiasis control branch in the Ministry of Agriculture.

"We cannot go into the bush unless there is a total ceasefire. We have so much work to do, such as fixing the fences and roads, which may have landmines anywhere along them, recruiting staff for training as we have lost many through the war, and so on, before we can even consider operating again."

He said that since 1977 limited spraying had been done in the Urungwe, Binga and Gokwe areas.

"Unfortunately spraying small blocks doesn't achieve much as they are re-invaded quickly."

The barriers and chamber along the Makuti road were opened on January 24 because of the maize trucks going to and from Zambia.

"The Department anticipated that over the flat country near Chirundu, flies would hitch a lift on the trucks and as they came through the commercial farming areas around Karoi, would fly off," he said.

Hand nets and sprays are used at the barriers, one outside the Makuti hotel and the other two kilometres from Chirundu.

"Although this method does not look effective, it is. The insecticide does not necessarily kill the flies but prevents them from clinging on to trucks and being transported to the farming areas," said Mr Davison.

He said just one bite from a carried tsetse fly could cause the death of a prize bull.

Another reason for the re-introduction of the chamber was the increase of holidaymakers coming from Kariba and through Karoi.

There used to be barriers in the Mtoko district but these have not been re-introduced yet, and will not be for some time as the source of flies is not so near the commercial farming areas.

A high density of tsetse flies is found in the many wildlife areas to the north, and the problem increases where the Tribal Trust Lands and commercial farming areas adjoin the wildlife areas.

"We haven't been able to help farmers in the TTLs since cattle dipping was stopped. A government animal health inspector used to check for trypanosomiasis at the same time as dipping took place."

He said they did not know exactly how many cattle had died from tsetse bites since the service was stopped, as some have died from tickborne diseases as well.

Some Africans in the TTLs used to resent the presence of the inspectors, but now are almost begging them to come back as they have so few cattle left.

"Some are buying preventive and curative drugs themselves to keep what cattle they have left alive.

"Regular dosing of cattle is very important and is the first thing we will do when we return to the TTLs. The best drug we have can give up to three months immunity.

"We simply don't know the full extent of the tsetse fly threat at present. In some areas there are no cattle left because of the war. We have not been able to inspect the TTLs and farmers in the commercial areas medicate their own herds without letting us know if any have contracted the disease.

"It would help tremendously if farmers could take blood smears regularly and send them to us for examination."

In the Gonarezhou area along the Mozambique border, the tsetse were driven some 80 km into Mozambique a few years ago. However, all work was stopped because of the security situation, and the flies could have returned.

"I believe the situation in the south-east is not too serious. If there were thousands of flies, someone would have noticed and told us, because we still have a camp on the Sabi River. Again we have no records of death or infections of cattle," said Mr Davison.

The present control technique used is teams of operators spraying DDT along river systems to kill the flies at their resting and breeding places.

The Department is now experimenting on a method where an odour is used to attract the flies into a trap. Once inside they will be automatically sterilized by a chemical sprayed on to them.

If this method is successful, DDT or other poisons will not have to be used to control tsetse so widely. Experiments are still being carried out to perfect an odour which will attract thousands of flies at a time.

CSO: 5400

NEW BID TO BEAT TICK DISEASES REPORTED

Salisbury THE SUNDAY MAIL in English 2 Mar 80 p 4

[Text]

RESEARCH that could lead to new methods of dealing with tick-borne cattle diseases is under way at the Department of Veterinary Services Research Centre in Salisbury.

Until recently study has concentrated mainly on a disease related to East Coast Fever because the tick that carries it is difficult to control by normal dipping.

But interest in the overall tick problem was renewed when terrorist activity disrupted dipping programmes in African rural areas and other tick-borne diseases began ravaging the herds, Dr John Lawrence, chief veterinary research officer, said last week.

An estimated 1 million cattle — about one-third of the tribal trust land herd — had died in the last five years from tick-borne diseases, he said.

"In the past when cattle were dipped throughout the country there was little need for more extensive research, but now we are looking at tick-borne diseases with new eyes," Dr Lawrence said.

Dipping of cattle is the accepted method of prevention throughout the world. But some have said that it is not always desirable because it suppresses the disease without eradicating it, leaving the door open to new outbreaks whenever dipping facilities are not maintained.

"The chances of eradicating ticks in Africa are almost non-existent. It was done in the United States with dipping and quarantine, but they were dealing with only one tick that carried two diseases.

"Here we have half a dozen ticks carrying cattle diseases, all of them behaving differently, all of them with different life cycles," he said.

A possible alternative to dipping would be to maintain a state of "enzootic stability", in which enough ticks would be present to stimulate immunity to the diseases they carried.

"Cattle are relatively resistant to tick-borne diseases when they are young. So if calves are infected they are less likely to die and more likely to develop immunity.

"A herd would then be more or less disease-free. This is the situation that used to exist in most of Africa and which the TTLs may now be approaching," he said.

There are drawbacks to relying on an enzootic stability. Immunity is never total, newly introduced animals usually die unless vaccinated and the tick population can become so great that sheer numbers cause a die-off.

"Whether this is something that can be created and maintained by management no one can tell at the moment. It certainly does exist in nature, but the general feeling is that it is not a thing that you can manipulate,' Dr Lawrence said.

A possible aid to such management would be development of tick-resistant breeds of cattle, an idea now being pursued in Australia.

CSO: 5400

CATTLE DISEASE WORRIES FARMERS

Lusaka TIMES OF ZAMBIA in English 28 Feb 80 p 5

[Text] Southern province farmers are worried about outbreaks of cattle diseases reported in at least four districts, including Namwala, which has the largest cattle population.

Reports reaching Choma from Namwala said yesterday that cattle were dying in scores a month after being attacked by a mysterious disease which the local people did not know.

Recently, Namwala governor Mr Hatchwell Mwanamulando, confirmed that although veterinary field men were doing their best to control the disease, there was a shortage of vaccines and cattle owners feared their animals might die.

In Monze, the rural councillor for ward 11, Mr Edward Milambo, said there was an outbreak of corridor disease in Hufwa area.

Villagers in the area and other parts of the district had been advised to restrict cattle movement so that the disease would not spread.

The department of veterinary and tsetse control will soon start a vaccination campaign to bring the disease under control.

The same disease had been reported in Chief Monze's area where 310 head of cattle died.

And in Livingstone and Kalomo movement of cattle and other livestock is still restricted due to an outbreak of foot and mouth disease which was reported last year.

Meanwhile Choma governor Mr Crosbery Chibanga has said the forthcoming decentralised local government system will not tamper with the powers of village headmen.

Mr Chibanga explained that the delimitation of wards in villages was aimed at accelerating development programes. The party and its government were not happy with the present system of administration.

CSO: 5400

TOBACCO BLUE MOLD, SUGARCANE RUST, SMUT DISEASE SITUATION

Blue Mold Propagation Continues

Pinar del Rio GUERRILLERO in Spanish 9 Dec 79 p 1

[Article by Rafael Cao Fernandez]

[Text] The disease known as blue mold in tobacco cultivation first appeared during the present growing season in mid-November with isolated centers at Los Palacios, not spreading much until the final days of November and the early part of this month. With the arrival of the cold front, however, which provided favorable conditions for its development, it has spread rapidly through all nursery areas and to tobacco plantations with strong intensity in more isolated cases.

Temperatures between 18 and 25 degrees centrigrade and high relative humidity of more than 85 percent, in addition to totally overcast days, have been responsible for this spread.

The current situation makes it necessary to fight this disease tenaciously and to produce tobacco with acceptable levels of yield and quality, even with the presence of the mold. This means increasing the daily rate of planting in every possible way, since conditions in nursery areas are more favorable for the development of the disease due to population density, higher relative humidity than on plantations, less intense sunshine within the nurseries, inadequate ventilation and less effective control in general.

Sections B and C of the Task 4 Joint Directive, issued by the General Directorate of Tobacco and Plant Health in regard to the culling and disinfection of seedlings, must also be applied. All agricultural engineering and phytosanitary measures will also be intensified for other diseases which may cause substantial damage. There will also be a detailed review of all measures listed in the original document on the program for control and prevention of the disease and its full application.

Due to the mold's current spread, the municipal commissions and basic subcommissions for plant health must be put into full operation to direct and check compliance with all measures listed, as well as to make the decisions required in each case, as noted in the Joint Directive of the Tobacco and Plant Health Directorate, without having to request authorization from the provincial commission to proceed in each case.

Because of what tobacco represents for our province and for the country's economy, all mechanisms and forces assuring implementation of the measures issued must be put into operation.

Tobacco Disease Demands Urgency

Pinar del Rio GUERRILLERO in Spanish 11 Dec 79 p 1

[Article by Rafael Cao Fernandez]

[Text] You could talk about tobacco and blue mold for a good while with Domingo Rodriquez Rivera, chairman of the Alfredo Yabur Agricultural Production Cooperative of Consolacion del Sur, because the lands of Domingo and his fellow farmers were affected by this disease during the last harvest. Nevertheless, they completed the harvest and sold it at 39 pesos per quintal!

How?

"The first thing that we did was to call the engineers. They gave us the technical guidelines for the affected area and so that the disease would not spread. They immediately provided us with Zineb and formaldehyde. The first thing that we did was to restrict the group of farmers working in the affected area from going to another area and when they left there, they left that clothing behind after bathing and disinfecting themselves."

"We also developed a good campaign against the curious. No one except those who worked in the area with mold went there."

"We then began to apply 15-percent Zineb from 2-6 pm. The disease attacked our full-grown tobacco, therefore after cutting it, we fumigated it in the drying sheds with machines."

Was any other process used?

"After that tobacco had been there for 2 or 3 days, we took it to a single storage place, so that the spores of the disease could not transmit the virus to the rest of the tobacco. This brought us good results, since we controlled the situation by complying with all technical guidelines, of course. We sold that tobacco for 39 pesos per quintal and had a good year."

Is the tobacco affected this year as well?

"Yes, this year is generally the same, but we did the same as in the past, calling technicians immediately. We have affected nurseries and we don't want any curious persons there either; only the nursery personnel. We are fumigating with Zineb and there are times when we have left the nurseries white; we have already noted an improvement, as there is a decline."

"These days are very susceptible to blue mold. As we farmers say, rainy days and variable temperatures all enable the disease to gather strength; sometimes it is impossible to fumigate because of the rain, but we use Zineb again as soon as it clears up."

"We also have available a "tolla" (Domingo is referring to a type of receptacle) with formaldehyde so that farmers can disinfect their hands when they finish working."

Are you pulling up seedlings?

"No. As soon as the nursery is ready, we fumigate it one day before with 15-percent Zineb. We then fumigate the soil of the storage areas and place the seedlings so that they are not very piled up, so that they can receive ventilation. When the time comes for planting, we dip them in 75-percent Zineb dissolved in 50 gallons of water and keep them there for nearly 1 minute up to the point where they are tied."

When Domingo was asked for his general opinion on the mold and the position which must be taken, he replied as quickly as he had previously:

"A phrase which Comrade Heriberto Morales, first party secretary here in Consolacion del Sur, always used to tell us must be applied to the mold: 'Wars are won by fighting.' And this is a war. This is a crucial time for our province and for us tobacco growers. With or without mold, we cannot stop. If our nurseries are affected because they are more susceptible, more nurseries have to be planted and we are ready to do so. We are winning this war by applying technical measures. We proved this last year in our cooperative."

ANAP Calls for Battle

Pinar del Rio GUERRILLERO in Spanish 12 Dec 79 p 1

[Text] At the end of November, the inventory of nursery irrigation in accordance with the operative program outlined showed an unfavorable balance of 55,000 nurseries, with irrigation not extending much beyond 15 December. Each farmer, base and municipality must comply strictly with this schedule and irrigate as planned, in addition to the extra plan, in order to have the insurance necessary for the final plantings.

As December has been declared a month of intensive planting, it is necessary at every level to keep the 10-year commitment which we have proposed and to try to plant at least 80 percent of the area by 31 December, while complying with 100 percent of the total of irrigated and unirrigated areas by that date.

The December plan and the figures for January require generalized organizational work to take full advantage of existing seedlings, while linking farmers and bases as much as necessary.

To assure the seedlings required, nurseries cannot be neglected for a single instant with regard to irrigation, weeding, cleaning and systematic preventive fumigation against pests and diseases, since improper care of nurseries causes and spreads diseases.

A large part of the battle of the growing season is decided in the nursery. Everyone should act with full responsibility for this situation.

During this period, signs of the attack of blue mold fungus are showing up as a result of the climatic irregularities favoring its development. This requires all farmers to fully interpret and apply the phytosanitary measures recommended by the Technical Directorate of the Ministry of Agriculture.

There must be preventive fumigation of both nurseries and planted areas, using the products available in each cooperative or in municipal agencies for the service of the farming sector.

Unaffected fields must be protected. There must be fumigation to control the development of the disease and to protect plantations.

Every farmer has to become a veritable plant health activist and to comply strictly with technical guidelines by implementing the respective recommendations in carrying out his daily work.

No one can underestimate the presence or possibilities of the fungus attack or disregard the guidelines. Proceed as follows in each case:

1. Periodically check the nurseries to determine whether or not any disease is present.

2. Prevent the entry into the nurseries of personnel not working in same.

3. Intensify phytosanitary measures.

4. In nurseries where the disease is present and sufficient seedlings are available to fulfill the plan, the seedbeds will be eliminated by plowing and subsequent application of a 2-percent formaldehyde solution to the affected area.

5. If it is concluded from an analysis of the planting plan that additional seedlings are not available, the seedbeds in the centers affected by the

disease will be culled, with the remaining seedlings possibly being transplanted.

6. If culling the seedbeds in the centers affected by the disease jeopardizes fulfillment of the planting plan, the affected plants will be planted after first undergoing a process of disinfection by submerging the seedlings in a 0.2 percent solution of Zineb.

Provincial farmers have one main goal: to plant and harvest 2,250.7 caballerias of tobacco.

Their abilities must overcome any obstacle which may occur as a natural consequence.

No pests or diseases can prevent the achievement of this goal, as we will complete the harvest by correctly and properly applying the technical measures recommended, even under these new conditions.

Provincial Committee of the ANAP
[National Association of Small Farmers]

Preventive Measures Indicated

Pinar del Rio GUERRILLERO in Spanish 13 Dec 79 p 1

[Article by Rafael Cao Fernandez]

[Text] "The situation is not at all easy, but we can say from experience that if the measures recommended by Plant Health are applied, we will be able to have a good harvest. We cannot be intimidated by this situation. On the contrary, steps must be taken to control the mold: the mold is harmful, but failing to deal with it is worse."

These were the words of Aristides Gonzalez, chairman of the Carlos Balino Agricultural Production Cooperative of Consolacion del Sur, whose lands have been attacked by blue mold.

"The mold first occurred in our nurseries and now we have it in full-grown tobacco. In each case, we notified the technicians and immediately began the task of complying with their guidelines. They told us that we should fumigate the nursery every day with 15-percent Zineb after starting work and that we should later dip those same seedlings into a tank containing a 75-percent solution in 50 or 55 gallons of water to disinfect them, since they had to be planted."

What are the results of those plantings, Aristides?

"We have already obtained tobacco for several days with those seedlings and there is no evidence of any type of disease. The mold has to be neutralized with much technique and you will see that it has not harmed us a great deal. Of course, those areas must continue to be tended and fumigated. We have obtained as much as three caballerias with seedlings which were affected and the disease center has been neutralized by farmers staying ahead of the game."

Preventive measures?

"Continue planting nurseries. Between Sunday, 2 December, and Monday, 3 December, our cooperative and other adjacent cooperatives planted 1,500 nurseries. Because here in Consolacion del Sur tobacco does not require days; here we work constantly. What's more, I'll tell you something else. Last year, the mold also attacked our large plantations, but we neutralized it by following the technical guidelines and I can tell you that the harvest was not bad."

Aristides and his comrades are another example that the mold cannot stop the growing of tobacco or any other activity. In the case of this disease, there is the weather and a group of measures and the rest must proceed normally.

Pessimism Among Tobacco Growers

Pinar del Rio GUERRILLERO in Spanish 16 Dec 79 p 1

[Article by Rafael Cao Fernandez]

[Text] In general, it may be said that there is a good attitude toward the blue mold scourge. In most cases, workers in enterprises and harvesters in the farming sector are responding fully to the guidelines established by Plant Health.

But whoever wanders through the tobacco lowlands also realizes that there are cases--few of course--in which pessimism has been added to the damage caused by the disease, which could result in even greater damage. And the fact is that there cannot be isolated cases in this battle. It is very clear that there are practical measures which can put an end to the disease in the case of the infected nursery or the damaged plantation; and it is also very clear that when everything necessary is done to fight the mold, a quintal will not sell for 40 pesos at the end of the harvest, but it will sell for 39 pesos, as Domingo Rodriquez did last year in Consolacion del Sur.

This is a good example against pessimism--a good example for many, since even at this stage they harvested inferior tobacco in the 1978-79 growing season and since they have not yet started planting in the current growing season. Why?

Why did blue mold attack the nurseries? But . . .was the nursery complete? We have seen damaged nurseries every day, but not completely. There is a certain amount of seedling that can be planted and seedlings which are damaged, as directed, must be dipped in a 75-percent Zineb solution in 55 gallons of water for 1 minute to be disinfected and taken to the plantation quickly.

It has also been established that the nursery, in every case, must be sprayed white with 15-percent Zineb and that only the group of workers assigned to this activity should work there, that they should leave their clothes there and that the only visitors should be Plant Health officials. Nor can fumigation be allowed to stop on the plantation and must always be carried out from 2-6 pm.

All of this is subject to one requirement: the planting cannot stop. We cannot allow the mold to become an obstacle to planting, since it is already approaching its midpoint by December and delays in this respect are significant.

We might also mention fumigation of the soil of storage areas, not stacking the seedlings in such a way that they cannot receive ventilation and many other things which have already been said but which are being done in some locations, although not in others.

It is also well known that the current weather pattern is favorable for the disease; thus if all of these measures are not implemented, the disease will spread.

We must therefore draw this conclusion: the mold cannot be allowed to attack the men working with the tobacco, a principle that is applicable at all work levels, because that would be adding another problem to a growing season whose natural requirements have been obstructive and toward which only an attitude of combat is appropriate, equal to the province's commitment to have a good harvest.

Tobacco, Sugarcane Disease Studies

Havana JUVENTUD REBELDE in Spanish 6 Dec 79 p 2

[Text] The first scientific conference of the Plant Health Research Institute concluded here after broad and productive discussions of diseases affecting sugarcane and tobacco.

An approximate total of 70 recommendations were submitted concerning methods for protecting the good health of various crops.

In the presence of the delegates--more than 300--seven roundtable discussions were held, one of which dealt with sugarcane diseases, including rust and smut in particular.

One of the recommendations made was to establish a varietal mixture at cane reception centers in accordance with a mosaic planting pattern, i.e., of five to eight varieties.

This was suggested so that diseases affecting any variety would not have significant affects on the sugar industry and would make quick substitutions possible at the same time.

Another recommendation made was to comply strictly with the quarantine regulations established for the domestic introduction and movement of cane varieties and to set up at the cane enterprise level the apparatus to meet the crop's phytosanitary requirements.

The attention of the roundtable participants was also attracted by blue mold tobacco disease and in this regard it was recommended that research be conducted to determine the biological cycle of the disease in the case of the country's natural conditions.

It was also suggested that studies be made of the developmental dynamics of the disease in the field, an evaluation of the behavior of the main market and premarket varieties to the mold and promotion of the search for sources of resistance to the disease.

The experts emphasized the importance of eliminating tobacco harvest residue before 30 April by proper plowing and consecutive passes with shredders to reduce the risk of the disease surviving in the soil.

It was also pointed out that a good deal of the causes of blue mold are due to inefficient compliance with established phytosanitary standards and the role of prevention was stressed.

Pedro Luis Bernal, general director of Plant Health, closed the event, which was held in ~~the Hall~~ of Conventions and lasted 3 days.

Bernal said that the goals of the conference had been fully achieved and praised the scientific work of the participants, who came from the various provinces of the country where they work as researchers, instructors or are directly connected with production.

He pointed in particular to the development of the institute, which was established in 1977, and emphasized that there are unlimited prospects for plant health work, a vital specialty in Cuba whose economy is basically agricultural and whose climate is tropical.

He said that the institute's research program has been tight, but that technicians and specialists have tackled the work with perseverance and have made significant strides.

Bernal said that there are vast fields to be studied in depth, however, and that research in the next 5 years will be more complex and that its major emphasis will be on sugarcane.

Finally, he referred to the importance of introducing into production existing results of research, since "our work does not end in the laboratory, but rather when research is put into practice."

(AIN [National News Agency])

Sugarcane Smut Disease Research

Havana GRANMA in Spanish 7 Dec 79 p 3

[Article by Fernando Davalos]

[Text] The immediate start of experiments with pathogenic agents of sugarcane--so-called sugarcane smut and bacteria--was announced by Eng Pedro Luis Bernal, general director of Plant Health under the Ministry of Agriculture, while closing the first scientific conference of the Plant Health Research Institute.

He explained that the purpose of these programs, which this agency will carry out in coordination with the provincial laboratories of Plant Health, is to determine the behavior of those pathogens under certain conditions.

"It is urgent and essential to start work immediately on the specialty of immunology to determine the resistance mechanisms of market and premarket varieties to the most dangerous diseases," the head of the DGSV [General Directorate of Plant Health] said before an audience composed of phytosanitary specialists, technicians and directors from throughout the country, who had come from teaching, research, production and service centers to attend the scientific conference.

The problems which we face, Eng Pedro Luis Bernal emphasized, demand responses of a nature requiring the cooperation of all agencies created by the Revolution to lay the scientific foundations for agricultural development.

Sugarcane Rust Disease Explained

Havana JUVENTUD REBELDE in Spanish 7 Dec 79 p 2

[Article by Joan Dolset]

[Text] The belief is very widespread that our land is so fertile that agriculture must be a very simple thing for us. We have often heard that "it is only necessary to plant a seed or take a cutting and wait for the plant to grow."

But weeds grow and insects and contaminating fungi multiply much more easily, attacking plant growth. This is the great struggle which phytosanitary experts are waging to protect our agriculture, from the holder of a scientific degree to the average technician.

Slightly over a year ago, a previously unknown name was heard among growers on our sugarcane plantations: sugarcane rust disease, always pronounced with concern.

Rust is a common name applied to diseases caused by fungi in various crops. It is fatal for some varieties of sugarcane.

Rust Comes to Our Country

BA-4362, a prized cane of very high yield, was developed on the island of Barbados. Its cultivation soon spread throughout the Caribbean area, including Cuba, and even beyond to Asia and Africa.

News of sugarcane rust, a disease not previously noted among our main crop, had previously arrived from India in 1950. It is caused by the fungi Puccinia huehnii and Puccinia erianthi.

As happened with other diseases, the fungus was initially considered to be of little economic importance. It was not very aggressive. But as new generations of Puccinia gradually followed, the rust became more and more aggressive and dangerous. When it moved to other nations from India, it had already affected several varieties and crops had to be replaced by others which were resistant.

Via the wind or by other means, Puccinia's spores were established in remote areas. Its presence was reported in Tanzania, Africa, in 1965. There were reports from Cameroon, also in Africa, in 1969 that Barbados 4362 was its most propitious victim. This report was confirmed in Madasgascar and Angola. The disturbing news arrived last year that it had become established in Santo Domingo, Panama, Venezuela and Mexico . . . The possibilities that Cuba would escape the disease were remote.

How did this fungus move from one continent to another? This is the question which both specialists and laymen are asking themselves. Of course, the specialist knows that the spores of fungi can travel thousands of kilometers by floating through the air, but they are still interested in finding out and determining the exact means of transport.

Via the air or by other means, the fact is that the fungus reached the Caribbean and our country's sugarcane agriculture has been weakened as a result of the extent of the cultivation of BA-4362.

Necessary to Know the Enemy

Since the presence of such a dangerous disease was reported in our archipelago, studies on the cause of rust have been started at the Sugarcane Institute of the Cuban Academy of Sciences and in the Plant Health Research Institute (IISV) of the Ministry of Agriculture. Although the only practical solution is to replace the varieties affected with others which are resistant, it has become necessary to identify which of the two Puccinia fungi have become established here, as well as their biological characteristics.

Upon settling on the leaf of the plant, with favorable environmental conditions, the spore emits a germinal tube which penetrates the interior of the leaf and reproduction of the fungus begins there.

The pustule (urodesoros) then develops, which is a type of bundle of spores called urodesporas. Within a few days the pustule can be seen on the underside of the leaf. The foliar subepidermal tissue ruptures and hundreds, thousands of urodesporas are released into the air. They quickly spread the fungus. They settle on other plants and another cycle begins.

The affected leaf usually has several pustules whose components feed on adjacent tissue, causing it to become necrotic. If this happens in a developed plant, its health is weakened, its yield declines, but some of it can still be used.

When the disease occurs in seedlings, the condition which it causes in the leaf prevents it from obtaining solar energy and converting the latter into the nutrients needed for the further development of the host. The plant becomes rachitic and does not grow to more than one-third its normal size.

First Scientific Conference of Plant Health Research Institute

During the aforementioned conference, we spoke with Ileana Sandoval, a biologist and ~~member of~~ the Youth Technical Brigade; she was awarded the Forgers of the Future medal last year. During the conference she presented three studies on the disease. She heads the IISV team which identified Puccinia erianthi, the fungus responsible for our rust.

With regard to her work performed slightly more than a year ago, she told us:

In the IISV, we have performed research studies on the causative agent of the disease. We are therefore studying the main factors influencing the development of this pathogen, such as the influence of different temperatures for the germination of the urodesporas of the fungus, relative humidity, as well as studies of the behavior of the disease under natural conditions. We conduct weekly observations on plantations and assess foliar condition and the distribution of the disease, correlating it with existing environmental conditions such as temperature, relative humidity, rainfall and other ecological factors affecting the disease to a greater or lesser degree.

We also make systematic evaluations of our market and premarket varieties of sugarcane, assessing the condition which the disease causes in them, possibly cataloging their susceptibility or resistance to the rust pathogen. We have concluded some of these studies and others are still in progress.

When we inquired about her future work, she told us: Our team, which is composed of Eng Leticia Cuello and technician Ventura Picornell, will be devoted to the continuation of these studies, pursuing in depth various aspects of the main objectives.

11915
CSO: 5400

PEASANTS RECEIVE TOBACCO BLUE MOLD OR MILDEW INFORMATION

Havana ANAP in Spanish Oct 79 p 57

[Article by Humberto Castellanos]

[Text] Tobacco blue mold or mildew was reported in Cuba during the 1956-1957 harvest in the tobacco regions of Pinar del Rio, Havana and then Las Villas Province, according to the Directorate General of Plant Health of the Ministry of Agriculture.

During the 1959-1960 season, outbreaks of blue mold were again present in Pinar del Rio and Havana. And in the 1978-1979 period, this disease reappeared in the country's tobacco regions.

Tobacco blue mold or mildew is produced by the fungus named Peronospora tabacina Adam.

This disease, which is of fungus origin, that is, caused by a fungus, has been known for some time in Australia and various countries of America and Europe.

According to Frohlich and Rodewald, the presence of this disease was reported in Great Britain and European countries for over 50 years; and, in 1959, it was again present in Europe, causing the loss of up to 80 percent of the tobacco harvests in several European countries.

Characteristics of Blue Mold and Ways It Can Be Spread

Tobacco blue mold or mildew can attack seedlings in the nursery in the form of yellow spots on the upper surface or face of their leaves. On the other side, or bottom side, of their leaves, a fine, gray-blue powder or mildew appears, from which the disease derives its common name of blue mold.

The fine powder can easily be transported by the wind, on the hands, clothing and shoes of farmers, tools, mobile machinery, animals or by water, with the infection being transmitted to the rest of the nursery or plantations in the fields.

Measures for the Possible Control of Blue Mold

To control and combat tobacco blue mold or mildew, the Directorate General of Plant Health of the Ministry of Agriculture recommends application of the following measures, among others:

--Prohibit the use of fields for seed gathering in which this disease is or was present.

--Destroy the remains of the plantation, using an earth-turning machine after the harvest; i.e., on or around 30 April every year.

It is not enough for this purpose to use only land-clearing machinery, the Directorate General of Plant Health advises. In addition, plants of the Nicotana species and others in the field or surrounding area which could serve as hosts for the disease, must be destroyed.

--Taking into account the direction of the principal slope of the land being used for nurseries and tobacco fields, the plots and furrows should be laid out in such a manner as to promote the beneficial effect of the sun's rays on the plantation in accordance with the movement of the sun over our territory.

--If the symptoms of blue mold or any other tobacco disease appear in a tobacco field, samples should not be removed from this field. Instead, the plant health technician should be located immediately so that he can recommend the protective measures which should be applied. In the event the regional plant health technician cannot be located, a report should be made directly to the nearest Territorial Plant Protection Station (ETPP) or the Provincial Plant Health Department.

--Healthy and vigorous seedlings should be used for transplants. Weak or questionable seedlings from a phytosanitary standpoint should be eliminated.

--The excessive humidity during night hours favors the development of diseases of fungus origin, including blue mold. If, according to ETPP reports, there are indications that natural conditions favorable to the appearance of blue mold are present, irrigation periods should be spaced out and eliminated in the late afternoon because, as stated, excessive nightly humidity favors the development of blue mold.

What To Do if Blue Mold Appears in a Tobacco Region

In the event tobacco blue mold or mildew is detected in a nursery or tobacco field, the Directorate of Plant Health of the Ministry of Agriculture recommends:

--A field in which tobacco blue mold or mildew had appeared in previous harvests should not be used as a nursery.

--In tobacco fields where, despite the fact that tobacco blue mold or mildew had been present, it is necessary to use them for transplant purposes, the preparation of the soil should begin at least 90 days in advance of the scheduled transplant date, including the plowing and grading necessary to ensure the proper decomposition of the remains of the previous harvest and weeds before transplanting.

--Between one tobacco harvest and the next, in the same field it is possible to grow corn, squash, legumes and other plants, provided they are not of the solanaceous family of plants, accroding to the Directorate General of Plant Health.

--Entry into nurseries and tobacco fields is prohibited for persons who have nothing to do with the growing of this plant, unless especially authorized to do so.

--The extraction or removal of material from a contaminated tobacco field is not permitted.

--It is very important to keep in mind that personnel working in a contaminated tobacco field should not transfer to or visit other healthy fields.

--The spores or powder by which blue mold is transmitted from a contaminated tobacco field to a healthy field can attach themselves to and be transported by clothing, shoes, hands and tools. Spores can also be transported by mobile machinery, animals, excessive water and the wind.

For these reasons, all the precautions taken when blue mold appears in a nursery, or a tobacco field, are not exaggerated.

--When a tobacco field is ready for harvesting, no time should be lost in beginning the collection of leaves, on the basis of their maturity.

--In the case of on-the-stalk, sundried tobacco, the Directorate General of Plant Health recommends that the tobacco be kept in the drying areas for a period of 6 days, with care being taken that the leaves do not get wet in the event of rain.

--Cut tobacco, which may be affected by blue mold, will be processed in different facilities from those for healthy leaves.

--Tobacco plantations should receive programed applications of pesticides in accordance with the technical standards specified for every case.

--Finally, the Directorate General of Plant Health states that cut tobacco should be hung in properly oriented drying sheds with a space of 60 centimeters between sheaves [cuje y cuje] to ensure the proper action of the sun's rays on the leaves of the sheaves [mancuernas].

8143
CSO: 5400

SMALL-SCALE ARMY WORM INFLUX

Nairobi DAILY NATION in English 31 Jan 80 p 20

[Text]

AN army is marching on Kenya and the Government has asked people to be on the look-out for its front-line troops.

The invaders are army worms who have already fought a devastating campaign in northern Tanzania. Their targets are crops and livestock feeds, and the aftermath of worm warfare is famine.

A spokesman for the Government's Agricultural and Information Centre in Nairobi said army worms had already been found in the Taita-Taveta area, Kericho, Laikipia, and parts of Western and Nyanza provinces, but only on a small-scale.

The centre has now appealed to members of the public to report any army worm sightings to their nearest agricultural officer without delay in a bid to ward off a possible invasion.

"There is a possibility of an invasion. We suspect the worms are likely to be blown into Kenya from northern Tanzania," said a centre spokesman.

He said the situation in Kenya had not reached alarming proportions and was under control, but the public's help in reporting worms and their breeding moths was vital.

Reports should be promptly made to the Kenya Agricultural Research Station at Muguga, or any agricultural officer, so the worms can be dealt with immediately. The spokesman said the Government was equipped to deal with any invasion by army worms.

In March 1977, an invasion of army worms in Kakamega District resulted in the destruction of crops on 500 acres of land. The following month, another invasion took place in Taita-Taveta where 2,629.6 acres of maize and grass were destroyed.

In May, the same year, Nairobi and a number of surrounding districts were hit by another invasion which destroyed many gardens and grass compounds in the city.

CSO: 5400

END

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WORLDWIDE REPORT: Nuclear Development and Proliferation
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